

What is claimed is:

1. A method of forming an assembly for carrying a payload, comprising:
forming a support structure having a plurality of elongated engagement members,
5 each engagement member including an engagement surface adapted to support a load;
forming an adaptable payload assembly that includes a payload member and at least
one payload support coupled to the payload member, the payload support being adapted to
transmit loads from the payload member to at least one engagement member, the payload
support being moveable with the payload member relative to the support structure; and
10 removeably coupling the payload support to at least one of the engagement surfaces
of the engagement members.
2. The method of Claim 1, wherein forming a support structure includes forming
a support structure wherein the engagement surfaces are at least one of approximately flush
15 with and recessed below a lower surface of a panel supported by the support structure.
3. The method of Claim 1, wherein the adaptable payload member includes a
payload panel, and wherein forming a support structure includes forming a support structure
wherein the engagement surfaces are at least one of approximately flush with and recessed
20 below a lower surface of the payload panel.
4. The method of Claim 1, wherein the forming a support structure includes
forming a support structure adapted to support a floor panel, and wherein the engagement
surfaces are at least one of approximately flush with and recessed below a lower surface of
25 the floor panel.

5. The method of Claim 1, further comprising defining the requirements of at least one of the support structure, the adaptable payload assembly, and a related system.

6 The method of Claim 1, further comprising designing at least one of the
5 support structure, the adaptable payload assembly, and a related system.

7. The method of Claim 1, wherein forming a support structure includes forming a support structure wherein the elongated engagement members are approximately parallel.

10 8. The method of Claim 1, wherein forming a support system includes forming at least one of a floor assembly, an airframe, a structural member of a building, a structural member of a truck, a structural member of a vehicle, a structural member of a ship, and a structural member of a cargo carrier.

15 9. The method of Claim 1, wherein forming an adaptable payload assembly that includes a payload member comprises forming an adaptable payload assembly that includes at least one of a galley, a lavatory, a passenger seat, a cargo container, a section partition, a fireplace, a shelf, and an article of furniture.

20 10. The method of Claim 1, further comprising coupling at least one related system to at least one of the support structure and the adaptable payload assembly.

11. The method of Claim 10, wherein coupling the at least one related system includes coupling at least one of an electrical system, an electronic system, a water system,
25 and a waste system to at least one of the support system and the adaptable payload assembly.

12. The method of Claim 10, further comprising at least one of installing a trim member around the adaptable payload assembly and sealing the adaptable payload assembly.

13. A method of forming an aircraft, comprising:
5 forming an airframe;
forming a fuselage operatively coupled to the airframe;
operatively coupling a propulsion system to at least one of the airframe and the fuselage; and

forming a support structure coupled to at least one of the airframe and the fuselage
10 and having a plurality of elongated engagement members, each engagement member including an engagement surface adapted to support a load;

forming an adaptable payload assembly that includes a payload member and at least one payload support coupled to the payload member, the payload support being adapted to transmit loads from the payload member to at least one engagement member, the payload
15 support being moveable with the payload member relative to the support structure; and

removeably coupling the payload support to at least one of the engagement surfaces of the engagement members.

14. The method of Claim 13, wherein forming a support structure includes
20 forming a support structure wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of a panel supported by the support structure.

15. The method of Claim 13, wherein the adaptable payload member includes a
25 payload panel, and wherein forming a support structure includes forming a support structure

wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of the payload panel.

16. The method of Claim 13, wherein the forming a support structure includes forming a support structure adapted to support a floor panel, and wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of the floor panel.

17. The method of Claim 13, forming a support structure includes forming a support structure wherein the elongated engagement members are approximately parallel.

18. The method of Claim 13, wherein forming an adaptable payload assembly that includes a payload member comprises forming an adaptable payload assembly that includes at least one of a galley, a lavatory, a passenger seat, a cargo container, a section partition, a fireplace, a shelf, and an article of furniture.

19. The method of Claim 13, further comprising coupling at least one related system to at least one of the support structure and the adaptable payload assembly.

20. The method of Claim 19, wherein coupling the at least one related system includes coupling at least one of an electrical system, an electronic system, a water system, and a waste system to at least one of the support system and the adaptable payload assembly.

21. A method of adaptably positioning a payload, comprising:
providing a support structure having a plurality of elongated engagement members, each engagement member including an engagement surface adapted to support a load;

providing an adaptable payload assembly removeably coupled to the support structure at a first desired location, the adaptable payload assembly having a payload member and at least one payload support coupled to the payload member, the payload support being adapted to transmit loads from the payload member to at least one engagement member of the support structure, the payload support being moveable with the payload member relative to the support structure; and

selecting a second desired location on the support structure;

decoupling the at least one payload support of the adaptable payload assembly from the at least one of the engagement surfaces;

repositioning the adaptable payload assembly including the payload support from the first desired location to the second desired location; and

with the adaptable payload assembly positioned at the second desired location, coupling the at least one payload support of the adaptable payload assembly to at least one of the engagement surfaces of the engagement members.

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22. The method of Claim 21, wherein providing a support structure includes providing a support structure wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of a panel supported by the support structure.

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23. The method of Claim 21, wherein providing an adaptable payload assembly includes providing an adaptable payload assembly having a payload panel, and wherein providing a support structure includes providing a support structure wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of the payload panel.

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24. The method of Claim 21, wherein the providing a support structure includes providing a support structure adapted to support a floor panel, and wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of the floor panel.

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25. The method of Claim 21, wherein providing a support structure includes providing a support structure wherein the elongated engagement members are approximately parallel.

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26. The method of Claim 21, wherein providing a support system includes providing at least one of a floor assembly, an airframe, a structural member of a building, a structural member of a truck, a structural member of a vehicle, a structural member of a ship, and a structural member of a cargo carrier.

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27. The method of Claim 21, wherein providing an adaptable payload assembly that includes a payload member comprises providing an adaptable payload assembly that includes at least one of a galley, a lavatory, a passenger seat, a cargo container, a section partition, a fireplace, a shelf, and an article of furniture.

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28. A method of adaptably positioning a payload within a cabin of an aircraft, comprising:

providing a floor assembly having a plurality of elongated engagement members, each engagement member including an engagement surface adapted to support a load;

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providing an adaptable payload assembly removeably coupled to the floor assembly at a first desired location, the adaptable payload assembly having a payload member and at least one payload support coupled to the payload member, the payload support being adapted to transmit loads from the payload member to at least one engagement member of the floor

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assembly, the payload support being moveable with the payload member relative to the floor assembly; and

selecting a second desired location on the floor assembly;

decoupling the at least one payload support of the adaptable payload assembly from
5 the at least one of the engagement surfaces;

repositioning the adaptable payload assembly including the payload support from the first desired location to the second desired location; and

with the adaptable payload assembly positioned at the second desired location,
coupling the at least one payload support of the adaptable payload assembly to at least one of
10 the engagement surfaces of the engagement members.

29. The method of Claim 28, wherein providing a floor assembly includes providing a floor assembly wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of a panel supported by the
15 floor assembly.

30. The method of Claim 28, wherein providing an adaptable payload assembly includes providing an adaptable payload assembly having a payload panel, and wherein providing a floor assembly includes providing a floor assembly wherein the engagement
20 surfaces are at least one of approximately flush with and recessed below a lower surface of the payload panel.

31. The method of Claim 28, wherein the providing a floor assembly includes providing a floor assembly adapted to support a floor panel, and wherein the engagement
25 surfaces are at least one of approximately flush with and recessed below a lower surface of the floor panel.

32. The method of Claim 28, wherein providing an adaptable payload assembly that includes a payload member comprises providing an adaptable payload assembly that includes at least one of a galley, a lavatory, a passenger seat, a cargo container, a section partition, a fireplace, a shelf, and an article of furniture.

33. A method of transporting a payload, comprising:
providing a vehicle having a support structure including a plurality of elongated engagement members, each engagement member including an engagement surface adapted to support a load;

providing an adaptable payload assembly removeably coupled to the support structure at a first desired location, the adaptable payload assembly having a payload member and at least one payload support coupled to the payload member, the payload support being adapted to transmit loads from the payload member to at least one engagement member of the support structure, the payload support being moveable with the payload member relative to the support structure; and

transporting the adaptable payload assembly to a first destination using the vehicle.

34. The method of Claim 33, further comprising:
selecting a second desired location on the support structure;
decoupling the at least one payload support of the adaptable payload assembly from the at least one of the engagement surfaces;
repositioning the adaptable payload assembly including the payload support from the first desired location to the second desired location;

with the adaptable payload assembly positioned at the second desired location, coupling the at least one payload support of the adaptable payload assembly to at least one of the engagement surfaces of the engagement members; and

transporting the adaptable payload assembly to a second destination using the vehicle.

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35. The method of Claim 33, wherein providing a support structure includes providing a support structure wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of a panel supported by the support structure.

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36. The method of Claim 33, wherein providing an adaptable payload assembly includes providing an adaptable payload assembly having a payload panel, and wherein providing a support structure includes providing a support structure wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of the payload panel.

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37. The method of Claim 33, wherein the providing a support structure includes providing a support structure adapted to support a floor panel, and wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of the floor panel.

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38. The method of Claim 33, wherein providing a support structure includes providing a support structure wherein the elongated engagement members are approximately parallel.

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39. The method of Claim 33, wherein providing a support system includes providing at least one of a floor assembly, an airframe, a structural member of a truck, a structural member of a trailer, a structural member of a ship, and a structural member of a cargo carrier.

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40. The method of Claim 33, wherein providing an adaptable payload assembly that includes a payload member comprises providing an adaptable payload assembly that includes at least one of a galley, a lavatory, a passenger seat, a cargo container, a section partition, a fireplace, a shelf, and an article of furniture.

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41. A method of transporting a payload using an aircraft, comprising:

providing a support structure with the aircraft having a plurality of elongated engagement members, each engagement member including an engagement surface adapted to support a load;

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providing an adaptable payload assembly removeably coupled to the support structure at a first desired location within the aircraft, the adaptable payload assembly having a payload member and at least one payload support coupled to the payload member, the payload support being adapted to transmit loads from the payload member to at least one engagement member of the support structure, the payload support being moveable with the payload member relative to the support structure; and

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transporting the adaptable payload assembly to a first destination using the aircraft.

42. The method of Claim 41, further comprising:

selecting a second desired location on the support structure;

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decoupling the at least one payload support of the adaptable payload assembly from the at least one of the engagement surfaces;

repositioning the adaptable payload assembly including the payload support from the first desired location to the second desired location within the aircraft;

with the adaptable payload assembly positioned at the second desired location, coupling the at least one payload support of the adaptable payload assembly to at least one of the engagement surfaces of the engagement members; and

transporting the adaptable payload assembly to a second destination using the aircraft.

43. The method of Claim 41, wherein providing a support structure within the aircraft includes providing a support structure wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of a panel supported by the support structure.

44. The method of Claim 41, wherein providing an adaptable payload assembly includes providing an adaptable payload assembly having a payload panel, and wherein providing a support structure includes providing a support structure wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of the payload panel.

45. The method of Claim 41, wherein the providing a support structure within the aircraft includes providing a support structure adapted to support a floor panel, and wherein the engagement surfaces are at least one of approximately flush with and recessed below a lower surface of the floor panel.

46. The method of Claim 41, wherein providing a support structure includes providing a support structure wherein the elongated engagement members are approximately parallel.